

**To:** Way, Steven[way.steven@epa.gov]  
**From:** Matt Francis  
**Sent:** Sun 9/13/2015 2:35:16 PM  
**Subject:** Fwd: Gold King  
[image002.jpg](#)  
[image003.png](#)  
[image001.png](#)

I thought I provided this earlier, if not my apologies. Also, you and I had a personal conversation in which you agreed we needed to go with 8". I also sent you an email response indicating the air valves and vkeanout ports were being included. I have directed APTEC to proceed accordingly and they plan to start mobilizing this coming week. If further discussion is necessary, let's make that a Monday morning priority

**CBI/Ex. 4**

I'll be away from email for a few hours but will check in later.

Sent via the Samsung Galaxy Note® 3, an AT&T 4G LTE smartphone

----- Original message -----

From: Eric Anderson <Eric@APTecUSA.com>  
Date: 09/10/2015 3:58 PM (GMT-07:00)  
To: Matt Francis <m.francis@erllc.com>, Ben Kneller <Ben@APTecUSA.com>  
Cc: "Petri, Elliott" <Elliott.Petri@WestonSolutions.com>, Dale Kneller <Dale@APTecUSA.com>, "Way, Steven" <way.steven@epa.gov>, Keith Moore <MooreK@APTecUSA.com>  
Subject: RE: Gold King

Matt,

**CBI/Ex. 4**

# CBI/Ex. 4

If you need the lower Gold King to Laydown clean out to be above the valve cluster (in the high pressure zone) the cost will increase<sup>CBI/Ex. 4)</sup>. This would require adapting to an epoxy coated ductile iron cleanout and high pressure access cap.

We still need to figure out the inlet layout and design at Gold King for frost protection and workability with the ongoing work on the bulk head and we also still need to determine the details for crossing the North Fork Cement Creek. We believe that we need to elevate it in by sliding it through a carbon steel pipe to protect it during runoff and eliminate the sag at that point. Additionally this may need pipe insulation if it is elevated and exposed to more drastic wind and cold.

Regards,  
Eric Anderson  
General Manager  
[canyon logo sm] [aptec logo sm bip 2]  
54 Girard Street, Unit B  
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(970) 385-7766  
[www.alliedpipelinetechnologies.com](http://www.alliedpipelinetechnologies.com)<<http://www.alliedpipelinetechnologies.com>>

From: Eric Anderson  
Sent: Thursday, September 10, 2015 12:36 PM  
To: 'Matt Francis' <m.francis@erllc.com>; Ben Kneller <Ben@APTecUSA.com>  
Cc: 'Petri, Elliott' <Elliott.Petri@WestonSolutions.com>; Dale Kneller <Dale@APTecUSA.com>; 'Way, Steven' <way.steven@epa.gov>; Keith Moore <MooreK@APTecUSA.com>  
Subject: RE: Gold King

Matt,

We are not currently able to find a 6" wye that will meet the required pressure rating (SDR 7) for the one cleanout above the valve cluster. They do have fabricated SDR7 wyes however they are de-rated after "fabrication" and we can only find molded wyes up to DR11. So I see 2 options here.

# Deliberative Process/Ex. 5

Thanks, Eric

From: Eric Anderson  
Sent: Thursday, September 10, 2015 10:28 AM  
To: 'Matt Francis' <m.francis@erllc.com<<mailto:m.francis@erllc.com>>>; Ben Kneller <Ben@APTecUSA.com<<mailto:Ben@APTecUSA.com>>>  
Cc: Petri, Elliott <Elliott.Petri@WestonSolutions.com<<mailto:Elliott.Petri@WestonSolutions.com>>>; Dale Kneller <Dale@APTecUSA.com<<mailto:Dale@APTecUSA.com>>>; Way, Steven <way.steven@epa.gov<<mailto:way.steven@epa.gov>>>; Keith Moore <MooreK@APTecUSA.com<<mailto:MooreK@APTecUSA.com>>>

Subject: RE: Gold King

OK.

- 1) AirVac size, 1"? I anticipate 3ea at the top of each section. They will be buried and placed in small vaults and insulated for frost protection.
- 2) Cleanout Port size, 4"? 6"? I anticipate 4ea, one for each run near the wye and one at the midway point on the Gladstone Run. On the mid-line CO I assume you want "Double Cleanout" to be able to flush in both directions, correct?  
We are putting it together now.

Eric

From: Matt Francis [mailto:m.francis@erllc.com]  
Sent: Thursday, September 10, 2015 9:41 AM  
To: Eric Anderson <Eric@APTecUSA.com<mailto:Eric@APTecUSA.com>>; Ben Kneller <Ben@APTecUSA.com<mailto:Ben@APTecUSA.com>>  
Cc: Petri, Elliott <Elliott.Petri@WestonSolutions.com<mailto:Elliott.Petri@WestonSolutions.com>>; Dale Kneller <Dale@APTecUSA.com<mailto:Dale@APTecUSA.com>>; Way, Steven <way.steven@epa.gov<mailto:way.steven@epa.gov>>  
Subject: RE: Gold King

Thanks. Sounds like to alleviate all concerns, we would like to bump that section up to 8". Additionally, we would like the following incorporated:

- 1) Air valves located necessary in each segment to prevent air pockets/vacuum
  - 2) Clean out ports at a minimum of one just above the wye, one on the Red and Bonita line and one every 1000'+/- on the Gladstone route. All need to be located to be accessible by a jet rodder truck. With the above changes, we'll be looking at just doing a single line of each segment. Let me know how this changes schedule and pricing.
- Thanks  
Matt

From: Eric Anderson [mailto:Eric@APTecUSA.com]  
Sent: Wednesday, September 09, 2015 3:56 PM  
To: Matt Francis <m.francis@erllc.com<mailto:m.francis@erllc.com>>; Ben Kneller <Ben@APTecUSA.com<mailto:Ben@APTecUSA.com>>  
Cc: Petri, Elliott <Elliott.Petri@WestonSolutions.com<mailto:Elliott.Petri@WestonSolutions.com>>; Dale Kneller <Dale@APTecUSA.com<mailto:Dale@APTecUSA.com>>  
Subject: RE: Gold King

Matt,

There is sufficient head in the system for the line to carry 1000GPM to Gladstone.

- From the laydown area to Gladstone there is approximately 280ft of drop (= 120psi of Head )
- Length from Laydown to Gladstone is approx. 2100ft

the first 2 attached sheets show the flow and line loss from the laydown to Gladstone.

- Considering a flat (no elevation loss/ gain) pipeline (6in DR11) at 1000 GPM there would be 90psi of pressure loss.

- Considering a flat (no elevation loss/ gain) pipeline (6in DR11) at 600 GPM there would be 35psi of pressure loss.

In the 3rd sheet we can see the potential of the gravity flow in that area considering

- A 5% slope the 6in DR11 pipe is capable of 600 GPM(Gravity flow 0 psi)
- However the average grade from Laydown to Gladstone is >13%  
Additionally there is the potential of over 250 psi of head from the upper sections to maintain the flow.

Regards,  
Eric Anderson  
General Manager

[aptec logo sm bip]

From: Eric Anderson  
Sent: Wednesday, September 9, 2015 1:49 PM  
To: 'Matt Francis' <m.francis@erllc.com<mailto:m.francis@erllc.com>>; Ben Kneller <Ben@APTecUSA.com<mailto:Ben@APTecUSA.com>>  
Cc: Petri, Elliott <Elliott.Petri@WestonSolutions.com<mailto:Elliott.Petri@WestonSolutions.com>>  
Subject: RE: Gold King

Matt  
We do have the flow calculations and will get them to you today as soon as Ben returns to the office.

Eric

From: Matt Francis [mailto:m.francis@erllc.com]  
Sent: Wednesday, September 9, 2015 1:21 PM  
To: Ben Kneller <Ben@APTecUSA.com<mailto:Ben@APTecUSA.com>>; Eric Anderson <Eric@APTecUSA.com<mailto:Eric@APTecUSA.com>>  
Cc: Petri, Elliott <Elliott.Petri@WestonSolutions.com<mailto:Elliott.Petri@WestonSolutions.com>>  
Subject: Gold King

We're getting closer to having everything resolved to move forward with the Gold King pipe project. One thing that has come up is the need for a calculation showing that the 6" line from the laydown area to Gladstone is capable of handling required flow rates.

With the elevation and routing information you have, can you provide a maximum flow rate for that section of the system? If you need additional information, please let me know and I'll try to assist.  
Thanks

Matt Francis  
Environmental Restoration, LLC  
303.994.6611

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